

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the length exceeds 150 words. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

3. The drawings are objected to because applicant submitted figures with the references WO 2004/045714 and PCT/EP2003/012857, which should be omitted.
4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3 & 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Claim 1 is vague and unclear as to what is being positively recited, functionally recited, and actively claimed or accomplished. The phrases "...a positive pole and a negative pole of an energy storage unit...", "a trigger circuit", "transverse branch", "switching members", "four H-legs" are all inferentially included. It is unclear if the applicant is positively reciting these elements or functionally reciting these elements. It is suggested to first state that the defibrillator has these elements before they are used in the claim. The phrase "...which is triggered..." is not clear as to which element of the defibrillator is being referred to. Furthermore, the phrase "the defibrillator comprising" is

vague and should be "further comprising" since all the elements previously recited are in the defibrillator. It is vague and unclear to the Examiner what elements of the defibrillator are "for regulating the patient current" and what the phrase "anti-parallel with the switching members" specifies. The claim appears to be a direct translation & does not conform to U.S. Standards; therefore, the Examiner suggests that applicant completely rewrite the claim.

8. Referring to Claim 2, the phrases "an amplifier" and "an internal reference voltage and an external reference voltage" are inferentially included as described above. Furthermore, it is vague and unclear what element of the defibrillator is functioning when "a trigger signal of the higher frequency is formed for opening the respective switching member..." The Examiner also suggests that the applicant should change the term "wherein" to another phrase such as "further comprising".

9. In reference to Claims 3 and 5, the phrases "a logic circuit" and "a patient resistor" respectively, in each claim, are inferentially included as described above. The Examiner suggests to first state that the defibrillator has these elements before they are used in the claim. Furthermore, it is not clear to the examiner as to what the phrase "...in the blocking direction in a positive direction toward the positive pole and in a negative direction toward the negative pole", in claim 5, specifies.

10. Claims 6 & 9 are vague and unclear as the phrase "anti-parallel arranged diodes" is inferentially included as described above. The Examiner suggests to first state that the defibrillator has these elements before they are used in the claim.

11. Referring to Claim 7, it is unclear as to what the applicant is actively claiming. The phrase "...an amplified proportional voltage is rectified" is vague and is not clear whether this is the same voltage as used in claim 2. The Examiner is not clear as to what specifically is providing rectification.

12. With respect to Claim 8, the term "patient resistor" is inferentially included as described above. The Examiner suggests to first state that the defibrillator has these elements before they are used in the claim. Furthermore, it is not clear to the examiner as to what the phrase "...in the blocking direction in a positive direction toward the positive pole and in a negative direction toward the negative pole", specifies.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claim 1 is rejected under 35 U.S.C. 102 (b) as being anticipated by Sullivan et al. (5,824,017).

15. Sullivan discloses a defibrillator having an output stage with an H bridge (Abstract). The H bridge is between a positive pole and negative pole of an energy storage unit / capacitor (Fig 1, 24) and emits a bi-phased defibrillation pulse (Column 2, lines 33-35) controlled by a trigger circuit (Col 5, lines 24-25; Fig 1, 20 & 22) with the patient circuit in the transverse branch of the H bridge (Fig 1, 17). Sullivan's invention

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controls the bi-phased triggering by alternatively switching on the switch members of the H bridge, through frequency modulation of a pulse train by the trigger circuit (Col 5, line 40 – Col 6, line 11), in order to reverse the patient current (Col 5, lines 5-23). Furthermore, Sullivan 1 uses diodes arranged with the switch members to maintain the patient current in a respective direction (Col 7, lines 28-45) and uses an inductive resistor (Fig 1, 27). Therefore, Sullivan meets the claimed limitations as best understood by the Examiner.

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 2 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over (Sullivan 1) Sullivan et al (5,824,017) in view of (Sullivan 2) Sullivan et al (6,421,563).

18. Regarding Claims 2 & 3, Sullivan 1 discloses the invention substantially as shown above. However, Sullivan 1 does not disclose a current sensor resistor arranged in the transverse branch. Sullivan 2 teaches the use of a resistor arranged in the transverse branch (Col 7, lines 43-55) for the purpose of shunting most of the current during the off state, while allowing the patient to receive most of the current during a defibrillation pulse. It would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify the defibrillator of Sullivan 1 by placing the resistor in the transverse branch as disclosed by Sullivan 2 in order to provide the predictable results of detecting the exact voltage being applied to the patient because it would provide a more accurate data value to base the phase oscillation upon.

Sullivan 1 discloses the use of a logic circuit as the defibrillator compares the voltage from a resistor, reflective of the capacitor value, to a reference or threshold value, where if exceeded, a trigger signal of higher frequency is formed to open the respective switch. If the reference or threshold value is downwardly exceeded, a trigger signal of higher frequency for closing the switch is formed. (Col 8, lines 36-52).

19. Referring to Claims 4 & 7, Sullivan 1 & 2 do not specify the use of a rectifier on the voltage values; however the use of a rectifier is common to one of ordinary skill in the art. It would have been obvious to modify the defibrillator of Sullivan 1 in view of Sullivan 2, with a rectifier in order to provide the predictable results of converting the value from AC to DC in order to compare the reference value to the external voltage value.

20. With respect to Claims 5, 6, 8, & 9, Sullivan 1 discloses that the defibrillator, in relation to the energy storage / capacitor, has a diode arrangement in a blocking direction (Col 8, line 62 – Col 9, line 7; Fig 2, D12). Anti-parallel arranged diodes characterize one of the H legs (Col 9, lines 19-30; Fig 2, D24 & D24'); however, Sullivan 1 & 2 do not disclose the use of anti-parallel arranged diodes on two of the H legs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the defibrillator of Sullivan to provide the predictable results of including

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two anti-parallel arranged diodes in order to provide two switch members which determine the current direction, rather than one.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D'Abreu whose telephone number is (571)270-3816. The examiner can normally be reached on Monday - Friday, 0600 - 1630 EST.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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